

## CLAIMS

We claim:

1. An inspection device including:
  - 5           a light source;
  - a pellicle beamsplitter for receiving light from the light source and redirecting said light;
  - an aperture array for receiving light from the pellicle beamsplitter;
  - a dual telecentric object reimager including a plurality of lenses;
  - 10          a telecentric camera imager including a plurality of lenses; and
  - a camera for collecting focused light.
2. A process of inspecting a surface including bumps thereon, the process comprising:
  - 15          scanning a surface using optics and a camera capable of determining light intensity for each pixel viewed;
  - measuring the light intensity at each pixel at a first elevation;
  - measuring the light intensity at each pixel at a second elevation;
  - and
  - 20          determining the elevation of the surface using a Gaussian curve based upon the light intensities measured at the first and second elevations at each pixel .
3. The process of claim 2 further comprising:
  - 25          scanning at least particular portions of a surface believed to contain protrusions extending outward from the surface using optics and a camera capable of determining light intensity for each pixel viewed;
  - measuring the light intensity at each pixel at a third elevation;
  - measuring the light intensity at each pixel at a fourth elevation; and
  - 30          determining the elevation of the protrusions using a gaussian curve based upon the light intensities measured at the third and fourth elevations at each pixel .
4. The process of claim 3 further comprising:
  - 35          determining the height of a protrusion by calculating the difference between the elevation of a protrusion and the elevation of the surface.

5. The process of claim 2 wherein an inspection device is used to perform the scanning and includes:

a light source;

5 a beamsplitter for receiving light from the light source and redirecting said light;

an aperture array for receiving light from the pellicle beamsplitter;

at least one reimager; and

a camera for collecting focused light.

10

10073649-0001.000